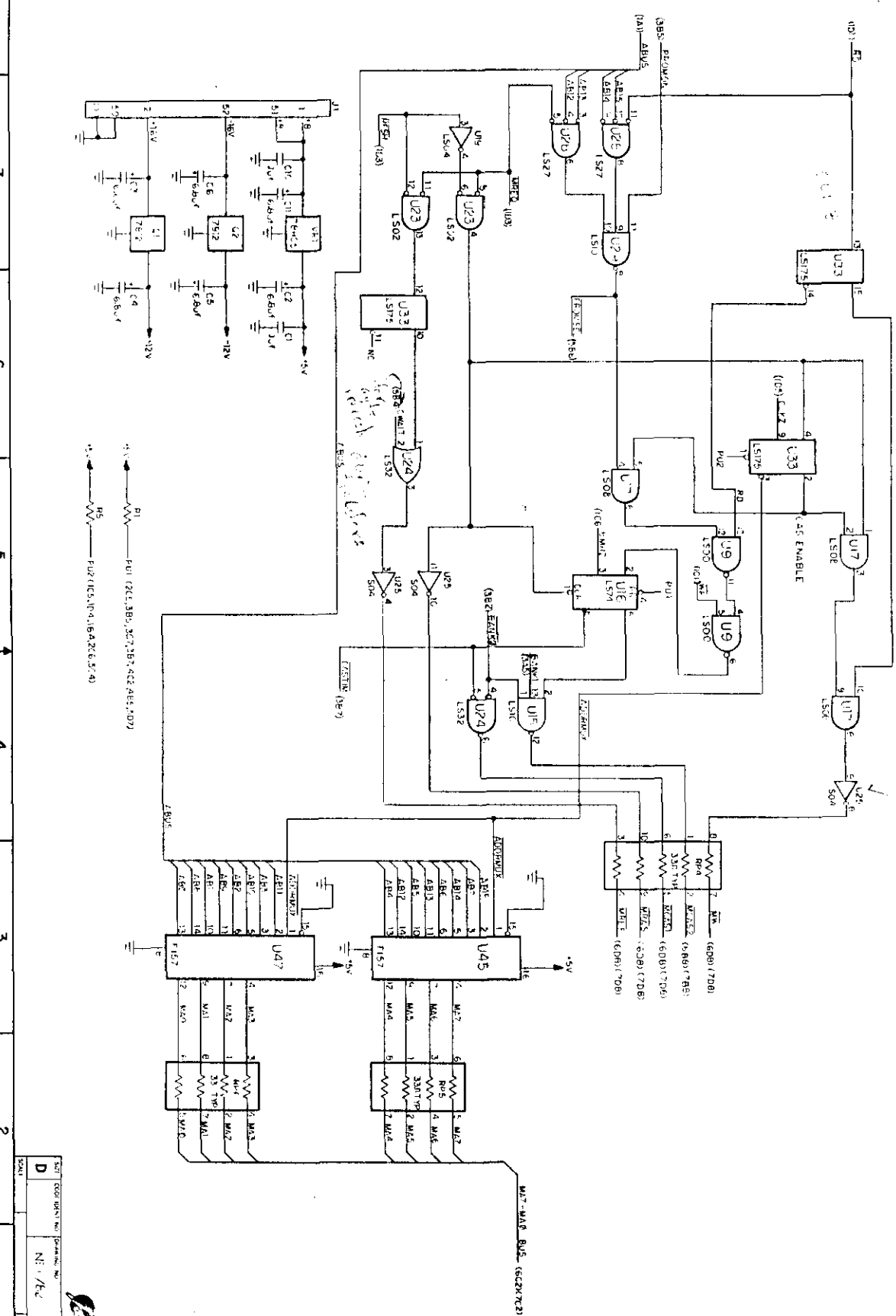
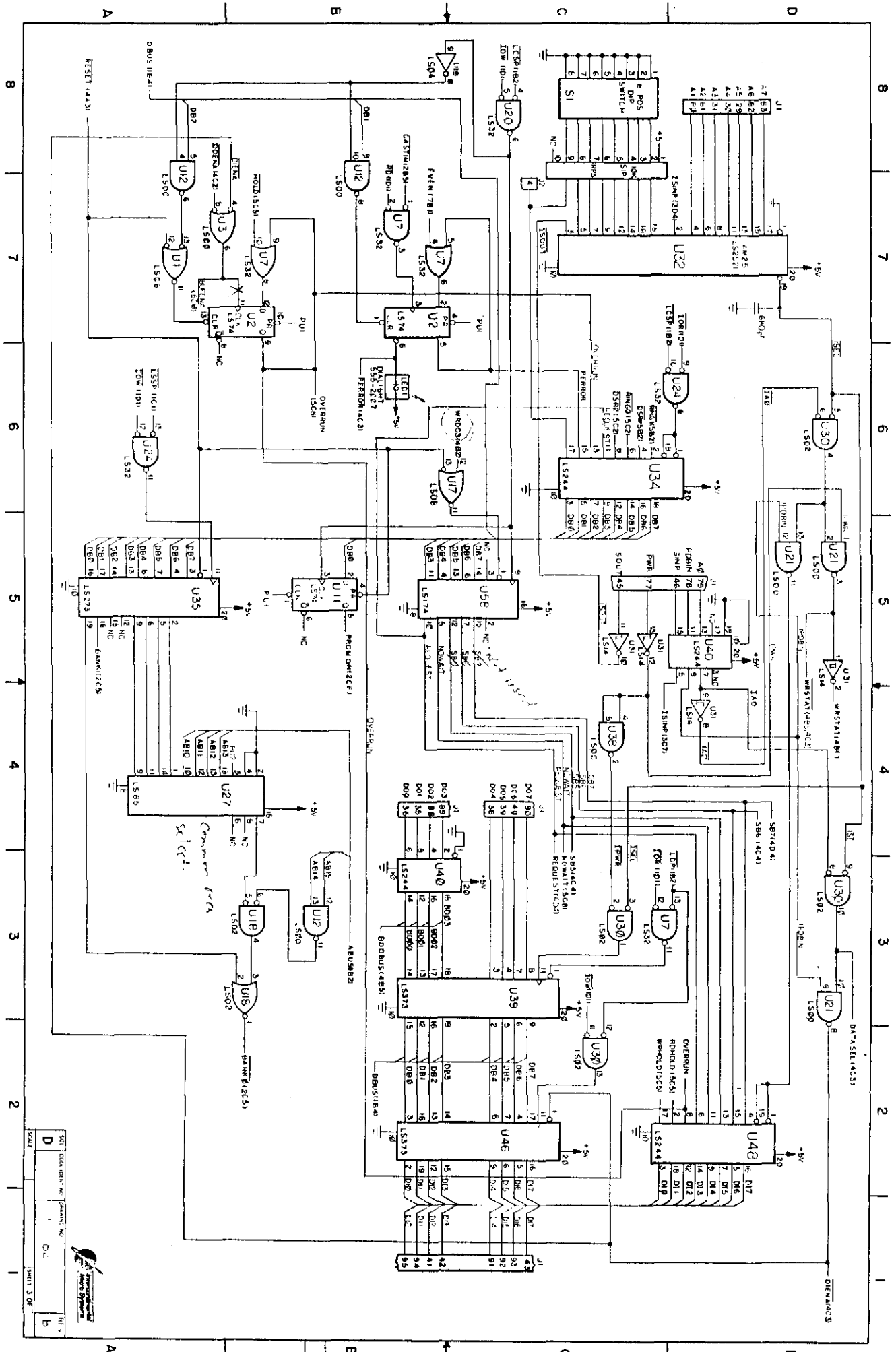
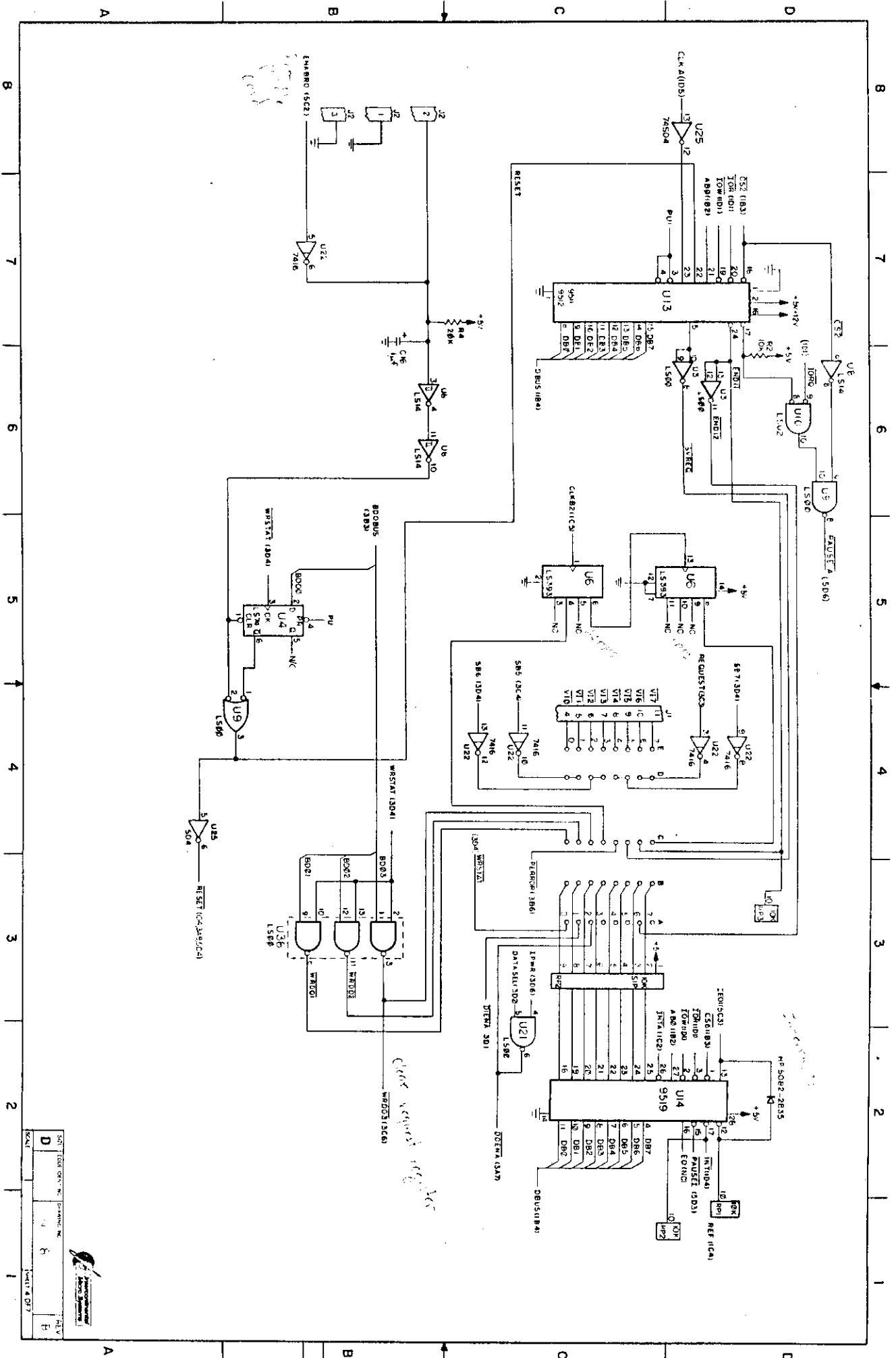


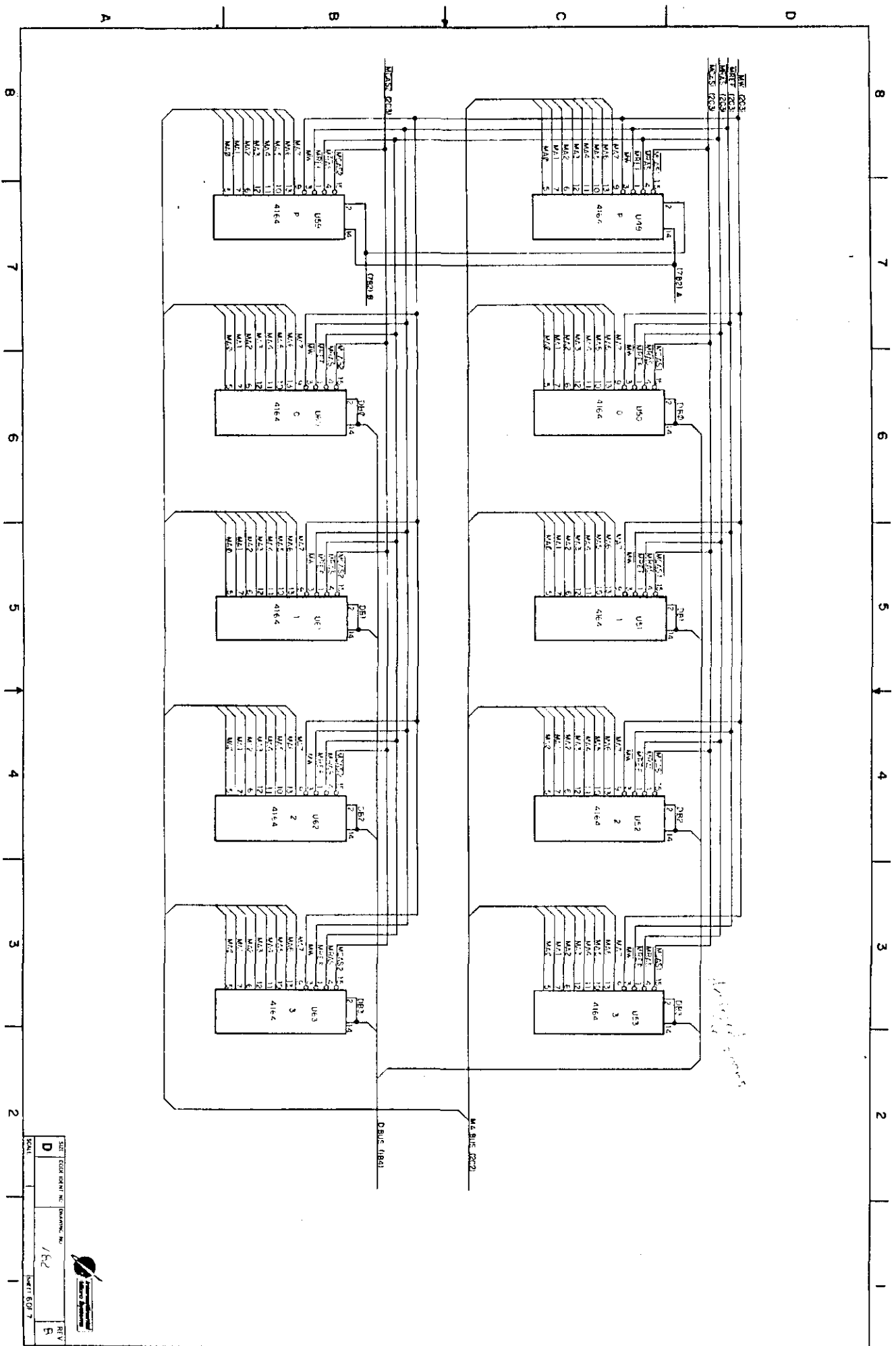
504



SHEET NO.	2 OF 7
DATE	10/1/77
DESIGNED BY	NE / KZ
CHECKED BY	B
SCALE	1:1
TITL	504

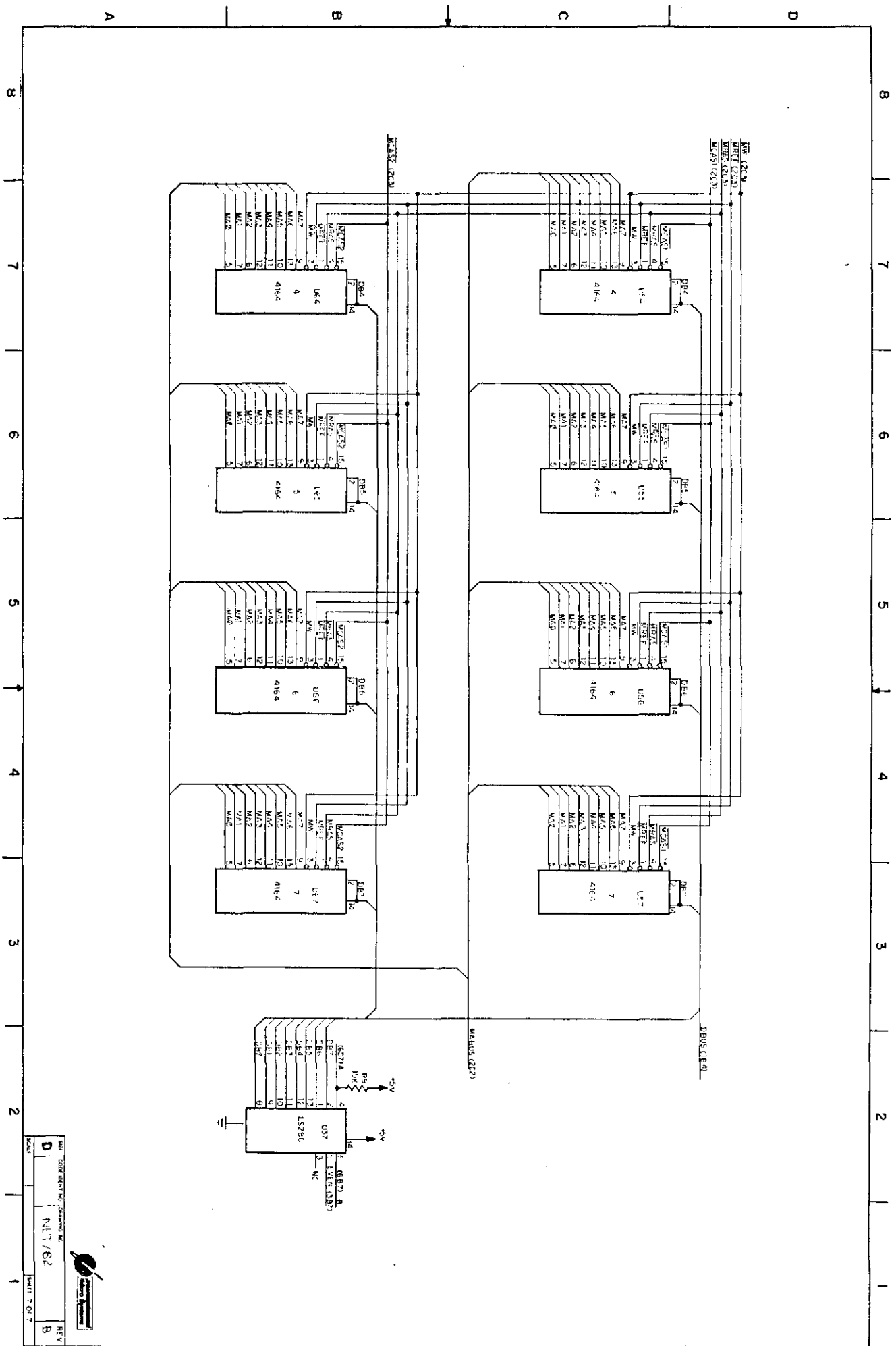






REV	1/52
DATE	1/52
SCALE	1/52





REV	B
DATE	11/1/62
BY	NTI/62
CHKD	



The RS-232-C Null Modem Interface Module, part number IM-1, revs C or D, is designed to interface our family of computer boards to a terminal or printer via a standard RS-232-C serial communications link. When used, the system becomes an effective DCE device and may be coupled to a standard DTE device.

The RS-232-C lines, mnemonics, signals, directions, and descriptions are:

Pin	Mne	Sig	Dir	Description
1	FG	AA	—	Frame (Protective) Ground [Note 1]
2	TxD	BA	In	Transmitted Data
3	RxD	BB	Out	Received Data
5	CTS	CB	Out	Clear To Send
6	DSR	CC	Out	Data Set Ready
7	SG	AB	—	Signal Ground [Note 1]
8	DCD	CF	Out	Data Carrier Detector
11	—	—	In	Unassigned (DTR for some printers. [Notes 2, 4]
14	STxD	SBA	In	Secondary Transmitted Data [Notes 2, 4]
18	—	—	Out	Unassigned [Notes 3, 4]
19	SRTS	SCA	In	Secondary Request To Send [Notes 2, 3, 4]
20	DTR	CD	In	Data Terminal Ready [Notes 2, 4]

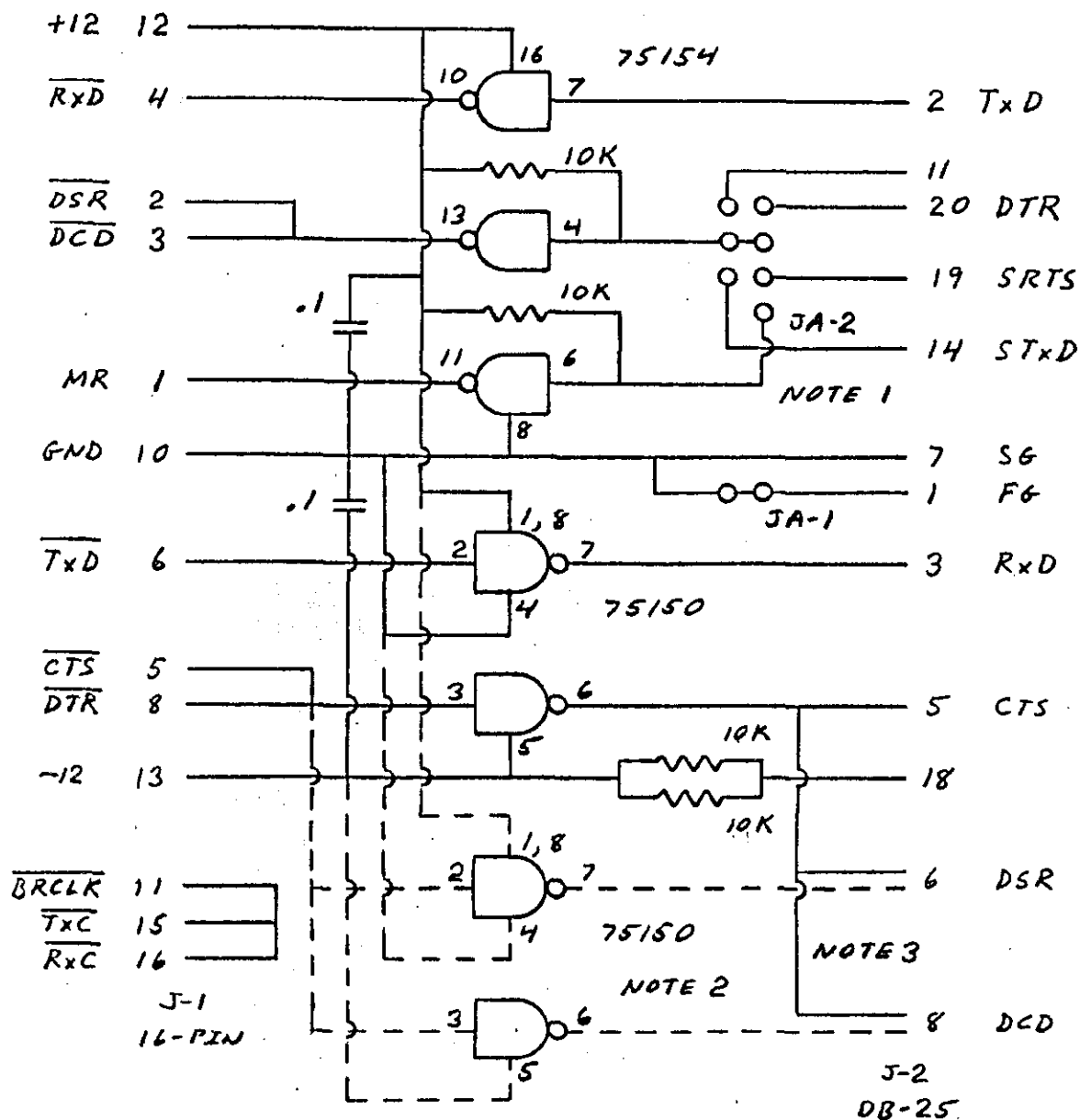
Note 1: JA-1 determines whether Pin 1 (Frame Ground) is connected to pin 7, (Signal Ground). On rev C modules, default is unconnected. On rev D modules, default is connected. JA-1 does not normally come with pins.

Note 2: Jumper area JA-3 on rev C modules allows incoming hardware handshaking on pins 11, 14, 19, or 20 to meet the needs of various printers.

Note 3: Jumper area JA-2 on revision C modules enables the remote reset feature. When JA-2 is jumpered, shorting Pins 18 and 19 forces a reset of the slave processor. When this option is used, Pin 19 may not be used for hardware handshake (see Note 2).

Note 4: Jumper area JA-2 on revision D modules encompasses the features of both JA-2 and JA-3 of revision C modules. (See notes 2 and 3).

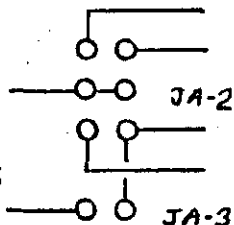
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES .XX ± .XXX ±		CONTRACT NO.											
		APPROVALS						DATE					
SERIAL		DRAWN <i>A. H. T.</i>		7-21-83		IM-1 DATA SHEET							
FINISH		CHECKED				SIZE		FSCM NO.		DWG. NO.		REV.	
		ISSUED				A						N/A	
DO NOT SCALE DRAWING						SCALE		N/A				SHEET 1 OF 2	



NOTE 1:

REV C

JUMPERS



NOTE 2: DOTTED CKT ON REV C ONLY.

NOTE 3: J-2 PINS 6 AND 8 CONNECTED TO PINS 5 ON REV D ONLY.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

FRACTIONS DECIMALS ANGLES
± .XX ± .XXX ±

SERIAL

CONTRACT NO.

APPROVALS

DATE

DRAWN

CHECKED

ISSUED

FINISH

DO NOT SCALE DRAWING

MUSYS
CORE

IM-1 REVS C AND D

SCHEMATIC DIAGRAM

SIZE

FSCM NO.

DWG. NO.

REV.

A

SCALE N/A

SHEET 2 OF 2

N/A

INTERFACE MODULE IM-2 Rev C or D
RS-232-C DCE (MODEM)

The MuSYS Corp. RS-232-C DCE (Modem) Interface Module, part number IM-2, revision C or D, is designed to interface the NET-81/82 family of computer boards to a modem via a standard RS-232-C serial communications link. When used, the system becomes an effective DTE device and may be coupled to any standard DCE device.

The RS-232-C lines, mnemonics, signals, directions, and descriptions are:

Pin	Mne	Sig	Dir	Description
1	FG	AA	--	Frame Ground [2]
2	TxD	BA	Out	Transmitted Data
3	RxD	BB	In	Received Data
4	RTS	CA	Out	Request To Send
5	CTS	CB	In	Clear To Send
6	DSR	CC	In	Data Set Ready [4,7]
7	SG	AB	--	Signal Ground [2]
8	DCD	CF	In	Data Carrier Detector
12	CI	SCF	In	Clock Indicator [3,4,7]
13	SCTS	SCB	In	Secondary Clear To Send [4,7]
15	TxC	DB	In	Transmitted Clock [5]
17	RxC	DD	In	Received Clock [5]
20	DTR	CD	Out	Data Terminal Ready [6]
22	RI	CE	In	Ring Indicator [3,4,7]
24	TC	DA	Out	Transmit Clock [5]

Note 1: All jumper areas are normally shipped without pins and with indicated default conditions implemented in trace on the solder side of the circuit board. Non-default options may be realized by cutting the default trace and jumpering for the desired option as required. See the schematic for all jumper areas and default connections.

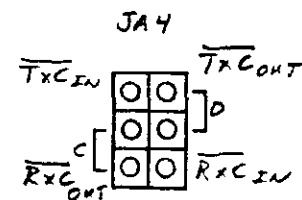
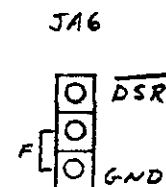
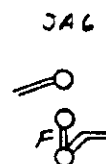
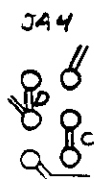
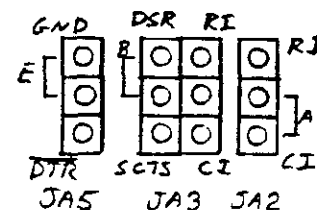
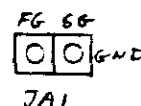
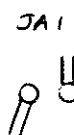
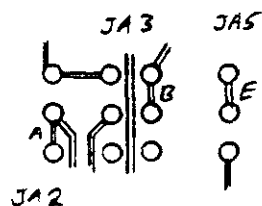
Note 2: JA-1 determines whether Pin 1 is connected to Pin 7. On revision C modules, default is unconnected, on revision D, default is connected.

Note 3: JA-2 determines the status of the Clock Indicator/Ring Indicator input on the serial I/O chip on the NET-81/82. Default is to Pin 12, acting in this case as Clock Indicator rather than the standard Secondary Data Carrier Detect. Removing the default trace and jumpering to Pin 22 establishes Ring Indicator detection. Removing all jumpering causes CI to the NET-81/82 to be always active.

Note 4: JA-3 determines the status of DSR to the NET-81/82. Default is to Pin 6 (DSR). Options are to Pin 12 (CI), Pin 13 (SCTS), Pin 22 (RI), or unjumpered (always active).

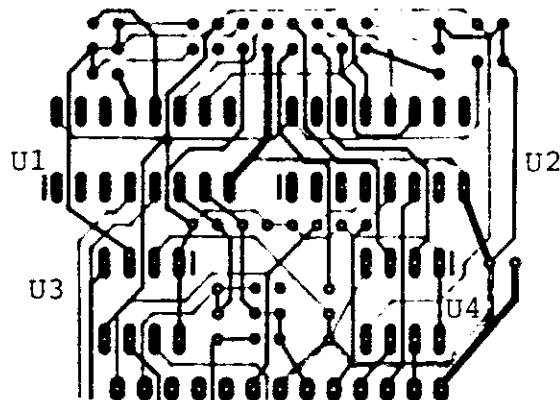
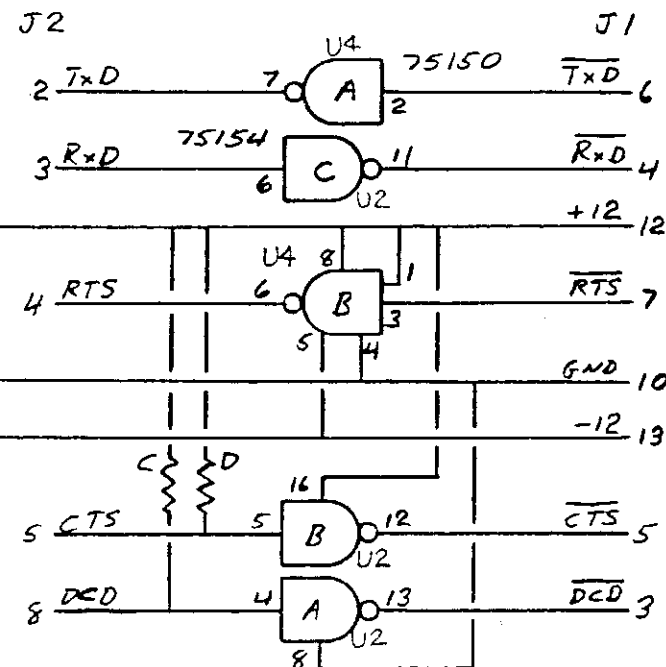
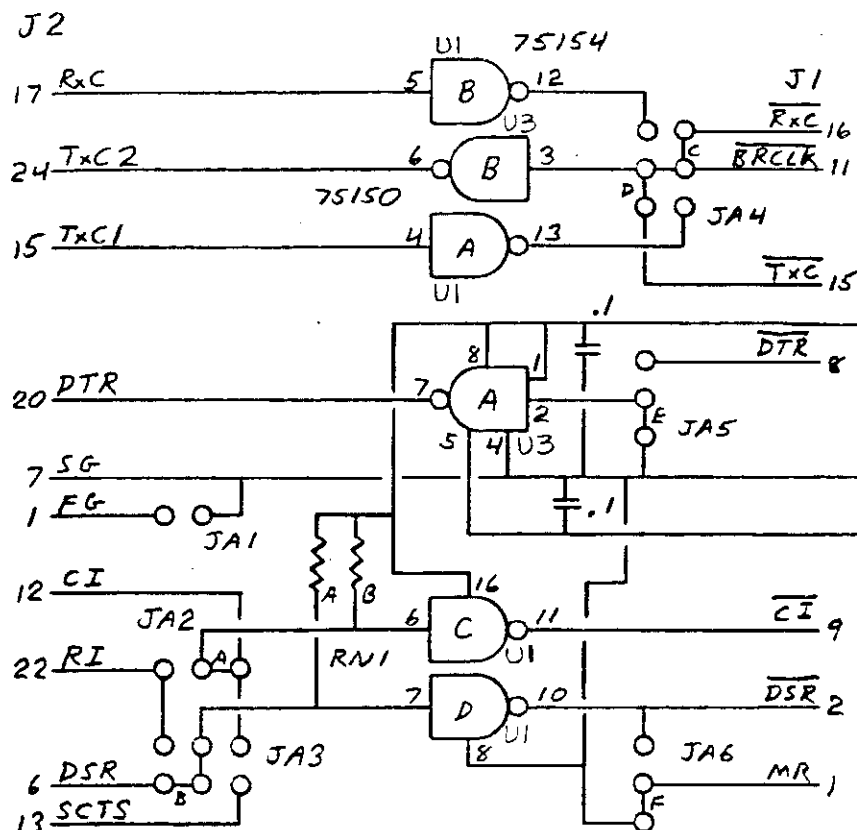
- Note 5: JA-4 determines the clocking system used. For asynchronous communications (default) TxC*(Out) and RxC*(Out) are jumpered as shown on the schematic, causing the baud rate clock signal from the NET-81/82 to be looped back to the serial I/O processor. For synchronous operation, the TxC*(In) is jumpered to TxC*(Out), and RxC*(In) to RxC*(Out), providing the clock signals for the I/O processor from the modem.
- Note 6: JA-5 determines the operation of Pin 20, the DTR line to the modem. As most modems require an active DTR to remain on line, this is provided as the default condition. This allows the system to be reset without disconnecting the remote user (the telephone line remains active). Jumpering JA-5 in the other option causes the DTR to be determined by system DTR, and during a reset the modems will go off-line (hang-up the telephone).
- Note 7: JA-6 determines the status of the system reset. When jumpered as defaulted, remote reset is disabled. When jumpered as the option, remote reset is provided by the DSR input (see Note 4).

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.



TOLERANCES (EXCEPT AS NOTED)			
DECIMAL		SCALE	DRAWN BY
±			APPROVED BY
FRACTIONAL	TITLE <i>IM-2 C</i>		
±	<i>RS-232-C MODEM INTERFACE</i>		
ANGULAR	DATE	DRAWING NUMBER	
±	<i>8-18-8.</i>	<i>JUMPER AREAS</i>	

DATE	SYM	REVISION RECORD	AUTH	DR.	CK.
7/24/82		CORRECT ERROR	(A)		



TOLERANCES (EXCEPT AS NOTED)			
DECIMAL		SCALE	DRAWN BY (A)
±			APPROVED BY
FRACTIONAL	TITLE IM-2C RS-232-C MODEM INTERFACE		
±	DATE 8-18-82	DRAWING NUMBER SCHEMATIC	
ANGULAR			
±			